

Enhancing Future Programs A Missouri Perspective



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Summary

- ☀ Very positive & successful experience
- ☀ Has allowed us to do things that were previously unavailable
- ☀ Has allowed us to develop new and refine old partnerships
- ☀ We have made a public health difference
- ☀ We are ready, eager, and prepared to go wherever EPHT takes us

Location of Office of Surveillance

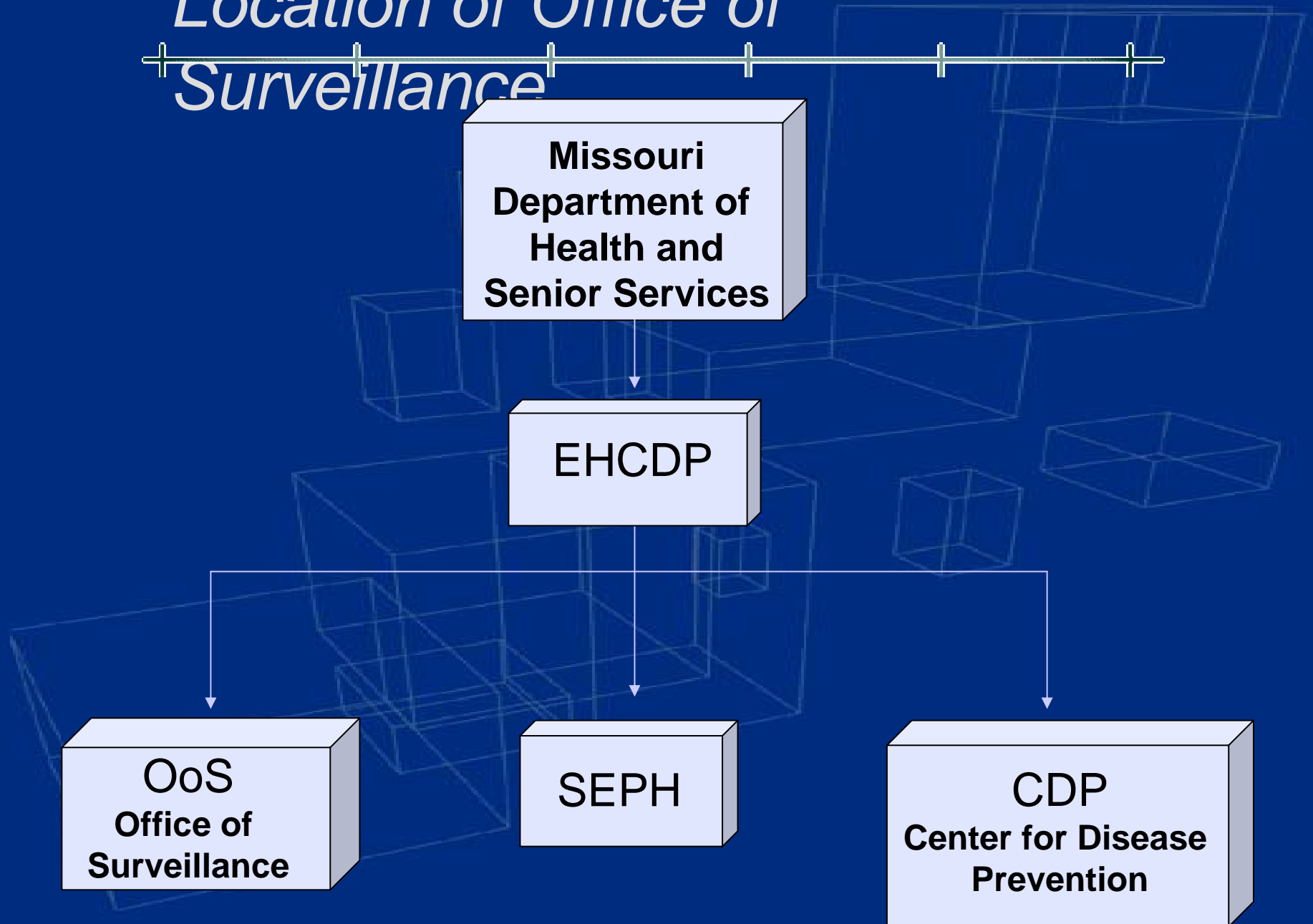
**Missouri
Department of
Health and
Senior Services**

EHCDP

**OoS
Office of
Surveillance**

SEPH

**CDP
Center for Disease
Prevention**



Original Goals of EPHT



- To create a statewide environmental public health tracking/surveillance program
- To develop and nurture collaborative efforts and interactions with:
 1. Allied state agencies
 2. Quasi-government agencies
 3. Allied divisions and sections within the Department of Health and Senior Services
 4. Center of Excellence
 5. Local Public Health Agencies

☀ Conversion of stand-alone stovepipe databases into

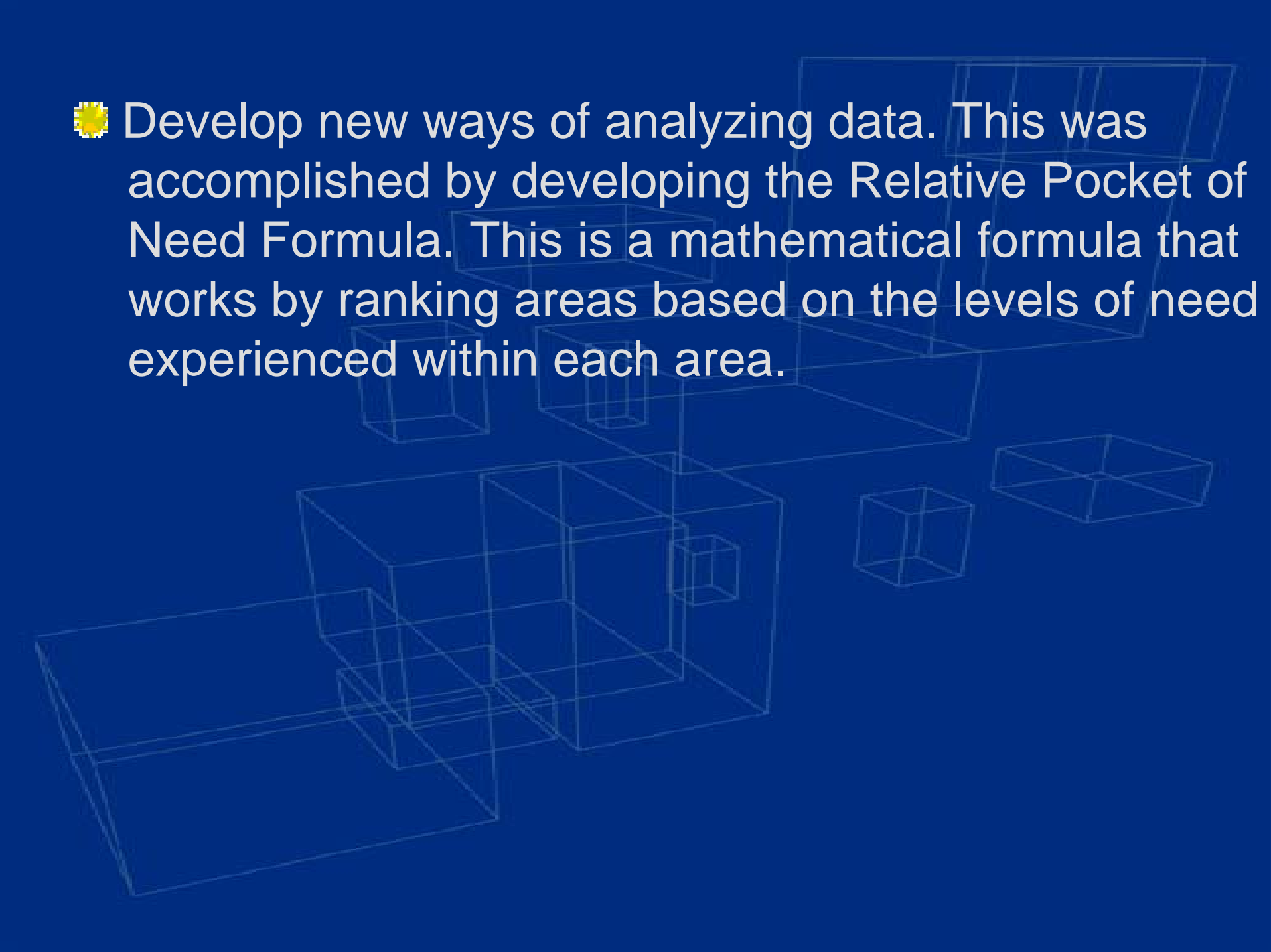
the Missouri Health Strategic Architectures and information Cooperative (MOHSAIC) – an integrated

1. The first database converted was the STELLAR public health information system databases – projected 2.5 years to complete
2. This will allow the linkage of MOHSAIC data to Medicaid Eligibility Database, Department of Social Services, and potentially the Social Security Database.
3. We have 15-19 other in-house environmental databases we want to convert. These are:



- ✱ Adult Blood Lead
- ✱ Arsenic
- ✱ Asbestosis
- ✱ Cadmium
- ✱ Carbon Monoxide
- ✱ Chemical Bronchitis
- ✱ Chromium
- ✱ Farmers Lung
- ✱ Mercury
- ✱ Methanol

- ✱ Methemoglobinemia
- ✱ Pesticide
- ✱ Nickel
- ✱ Zinc
- ✱ Selenium
- ✱ Silicosis
- ✱ Hyper/Hypothermia
- ✱ Environmental Asthma



Develop new ways of analyzing data. This was accomplished by developing the Relative Pocket of Need Formula. This is a mathematical formula that works by ranking areas based on the levels of need experienced within each area.

Relative Pocket of Need (for Pb)

Relative Pocket of Need (Lead) Main Equation

$$\text{RPoN}_{\text{Pb}} = \frac{P}{\text{Area}} \bullet (F_1 - F_2)$$

Relative Pocket of Need (Lead) Main Factor Equation

$$F_n = \left(\left(\frac{M_s}{\sum M} \right) \bullet V_s \right) + \left(\left(\frac{M_R}{\sum M} \right) \bullet V_R \right) + \left(\left(\frac{M_{\text{Pb}}}{\sum M} \right) \bullet V_{\text{Pb}} \right)$$

Relative Pocket of Need Sub-Factor Equation (F_1 Main Factor)

$$V_{f1} = \left(\left(\frac{m_1}{\sum m} \right) \bullet e^{\left(\frac{xv_1 - \bar{X}v_1}{SDv_1} \right)} \right) + \dots \left(\left(\frac{m_n}{\sum m} \right) \bullet e^{\left(\frac{xv_n - \bar{X}v_n}{SDv_n} \right)} \right)$$

Relative Pocket of Need Sub-Factor Equation (F_2 Main Factor)

$$V_{f2} = \left(\left(\frac{m_1}{\sum m} \right) \bullet e^{-\left(\frac{xv_1 - \bar{X}v_1}{SDv_1} \right)} \right) + \dots \left(\left(\frac{m_n}{\sum m} \right) \bullet e^{-\left(\frac{xv_n - \bar{X}v_n}{SDv_n} \right)} \right)$$



☀ Gain experience and develop expertise in the conversion of databases into an integrated system.

☀ Develop GIS and Spatial Analytical Capacity and expertise to conduct mid-level and advanced data analysis.

☀ By and large we have met all of these goals.

Competing Priorities



- We have been extremely fortunate, there have been no competing priorities
- EPHT has been one of the top priorities in the Department
- We have been able to perform and produce with the so support of Division Management.
- The biggest problem is that there is not enough of the team to go around. We are getting more requests and demands for our abilities and expertise from other states, entities within Missouri state government, and projects

What Missouri Has Accomplished

1. We have educated numerous in-state individuals and entities about the EPHT and EPHTN. We have interacted with the following Missouri Departments:

- Internal DHSS groups – biggest challenge
- Natural Resources
- Agriculture
- Conservation
- Elementary & Secondary Education

We have provided technical assistance and consultation on:

- ✿ Data Gathering
- ✿ Data Organization
- ✿ Data Management
- ✿ Data Quality
- ✿ Purpose of EPHTN
- ✿ Principles of EPHTN and PHIN

2. We have provided a large amount of technical assistance and consultation to many of our partners, both grant and non-grant, in the handling and manipulation of data and in defining, construction and maintaining databases.

This includes:

- ✿ 15 Missouri Entities
- ✿ 7+ States
- ✿ 6 Universities
- ✿ 3 Federal Departments
- ✿ 3 Cities

3. We have begun planning meetings to develop compatible methods to link and transfer data between the Departments of Health and Senior Services and Natural Resources. We have identified 30 databases that we want to review and evaluate.

These include:

- ✱ Air Quality Databases
- ✱ Water Databases
- ✱ Hazardous Waste Databases
- ✱ Underground Storage Tanks Databases
- ✱ Missouri Emissions Inventory Databases
- ✱ Mining Databases
- ✱ Solid Waste Databases


If we are successful, data will move from DNR to DHSS where we will conduct analysis on the information and then ship the information with interpretation back to DNR. We have abilities and capacity that they do not have. DNR and other entities that we have approached fall into two categories:

- ✱ Not real comfortable but willing
- ✱ Very uncomfortable and not at all willing

We need more information to address these conditions.

4. We have 3 staff members that serve on the SND Workgroup and its subcommittees.

Lessons Learned

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- ✿ Could talk for days on the lessons learned
 - ✿ It depends on what part of the effort and process you are talking about
 - ✿ You have to communicate and be patient
 - ✿ You have to realize that it is going to take much longer than you originally planned
 - ✿ There is a large amount of good and bad data out there and very little of it is going to fit without major overhauls
 - ✿ People are suspicious of why do you want to work with us and why do you want our data
 - ✿ People want money
 - ✿ Many, many more...

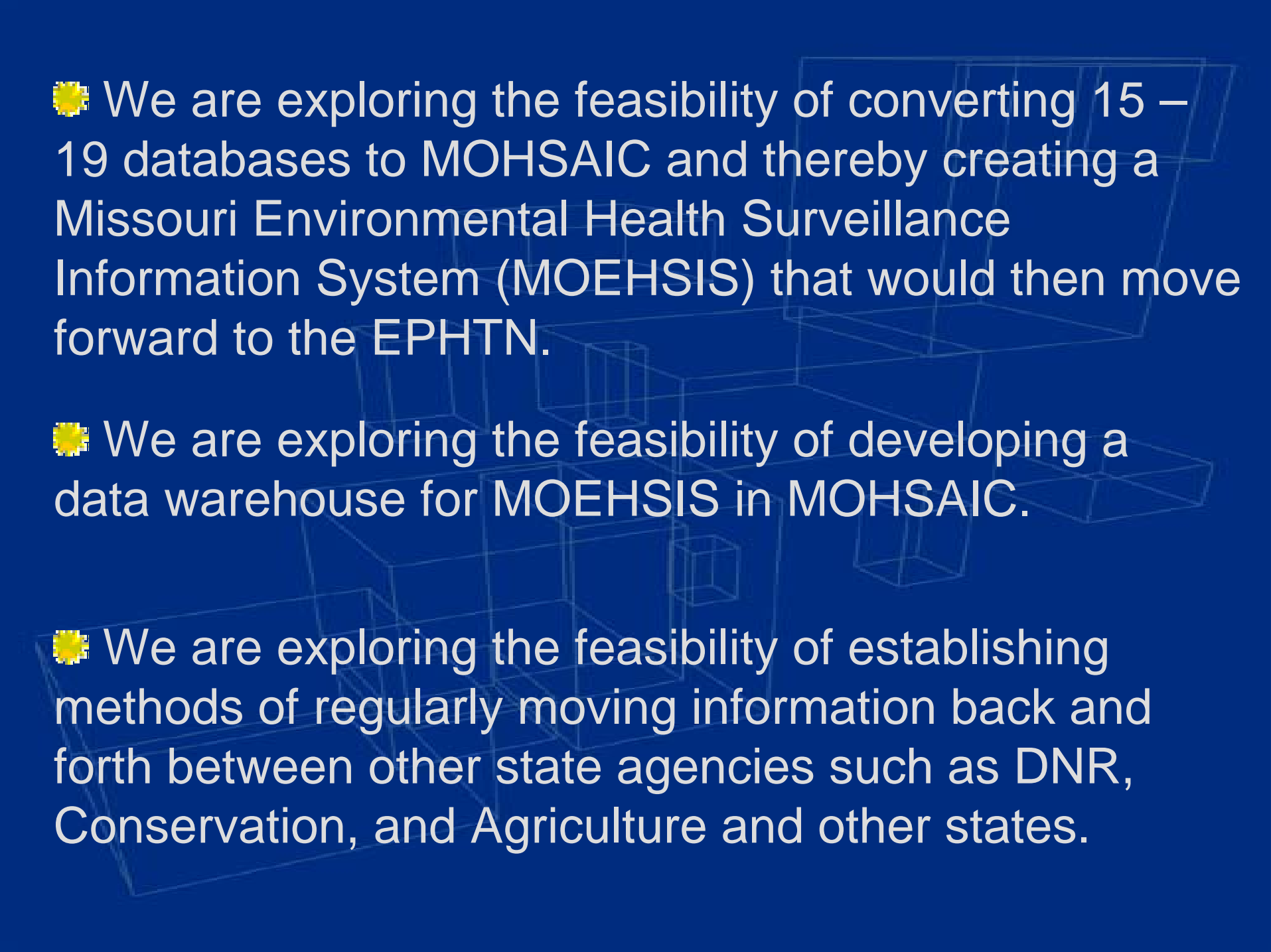
What Missouri Plans To Do



☀ The Sky is the limit. We have unlimited potential for the continued development of the EPHTN.

☀ We must prioritize our efforts to make the most of our time and funding. There are so many things to be done.

☀ Manage the demands being placed on us by groups who are finding out what we are doing and want our assistance and expertise.



■ We are exploring the feasibility of converting 15 – 19 databases to MOHSAIC and thereby creating a Missouri Environmental Health Surveillance Information System (MOEHSIS) that would then move forward to the EPHTN.

■ We are exploring the feasibility of developing a data warehouse for MOEHSIS in MOHSAIC.

■ We are exploring the feasibility of establishing methods of regularly moving information back and forth between other state agencies such as DNR, Conservation, and Agriculture and other states.



■ In conjunction with our Center of Excellence, we are exploring the feasibility of conducting a multi-state collaborative project developing and linking data on mercury in fish and a co-morbidity study for asthma and lead.

■ Upon completion of the conversion of STELLAR into MOHSAIC, begin to conduct advanced analysis on the integrated information.

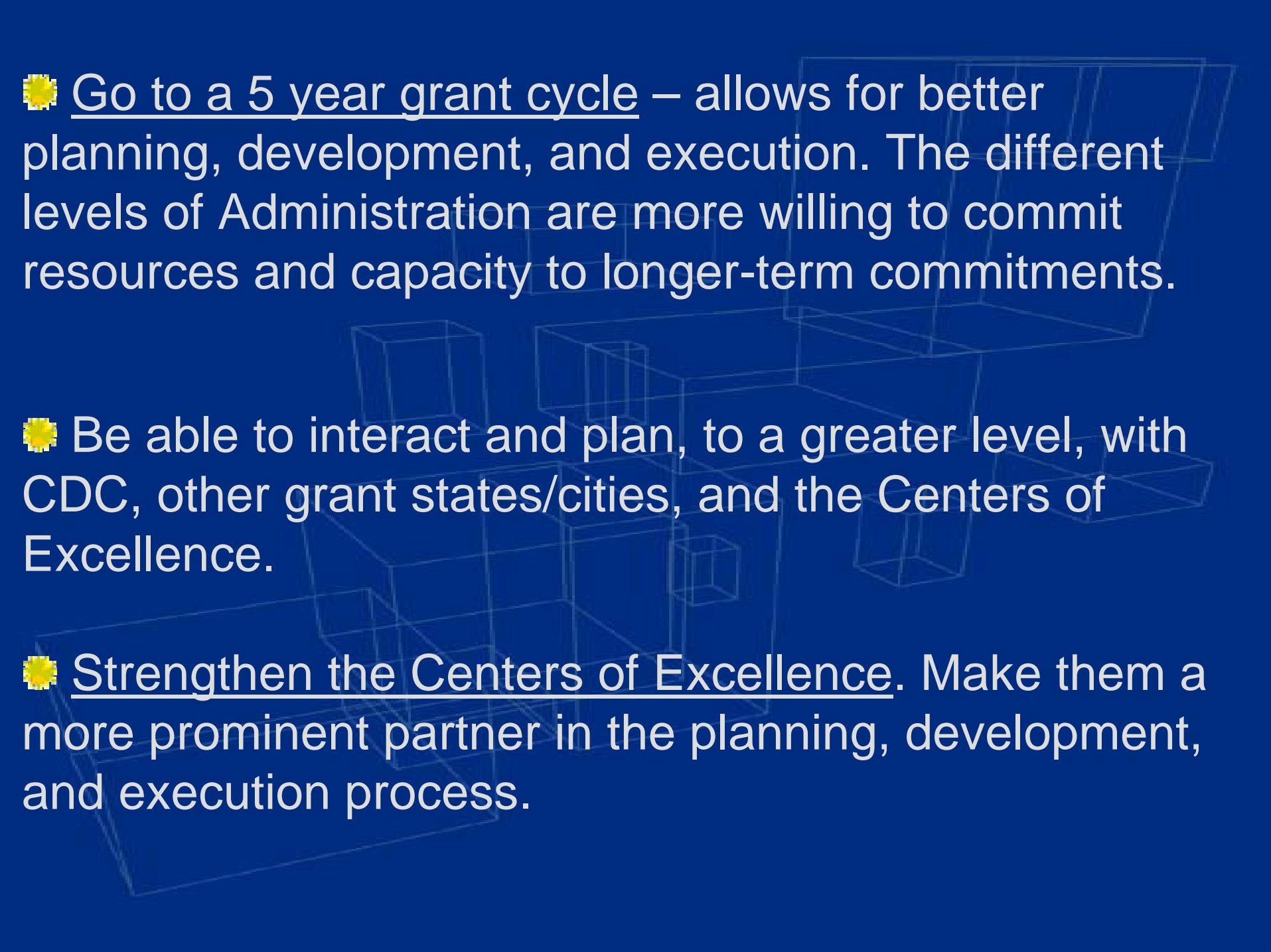
■ Continue to improve, enhance, and expand our GIS and Spatial Analytical capabilities.

What is Needed to Maintain and Enhance Existing Activities



■ We need to be able to show stakeholders the added value of the EPHTN. This is perhaps the most important issue – the value of the EPHTN.

■ The circle of partners is rapidly expanding, both internally and externally. Due to these events we need a more complete understanding of the future of the EPHT/EPHTN and the demands of the future, so that we need to present a better more complete picture to our partners and to be able to adequately plan and prepare with those partners.




☀ Go to a 5 year grant cycle – allows for better planning, development, and execution. The different levels of Administration are more willing to commit resources and capacity to longer-term commitments.

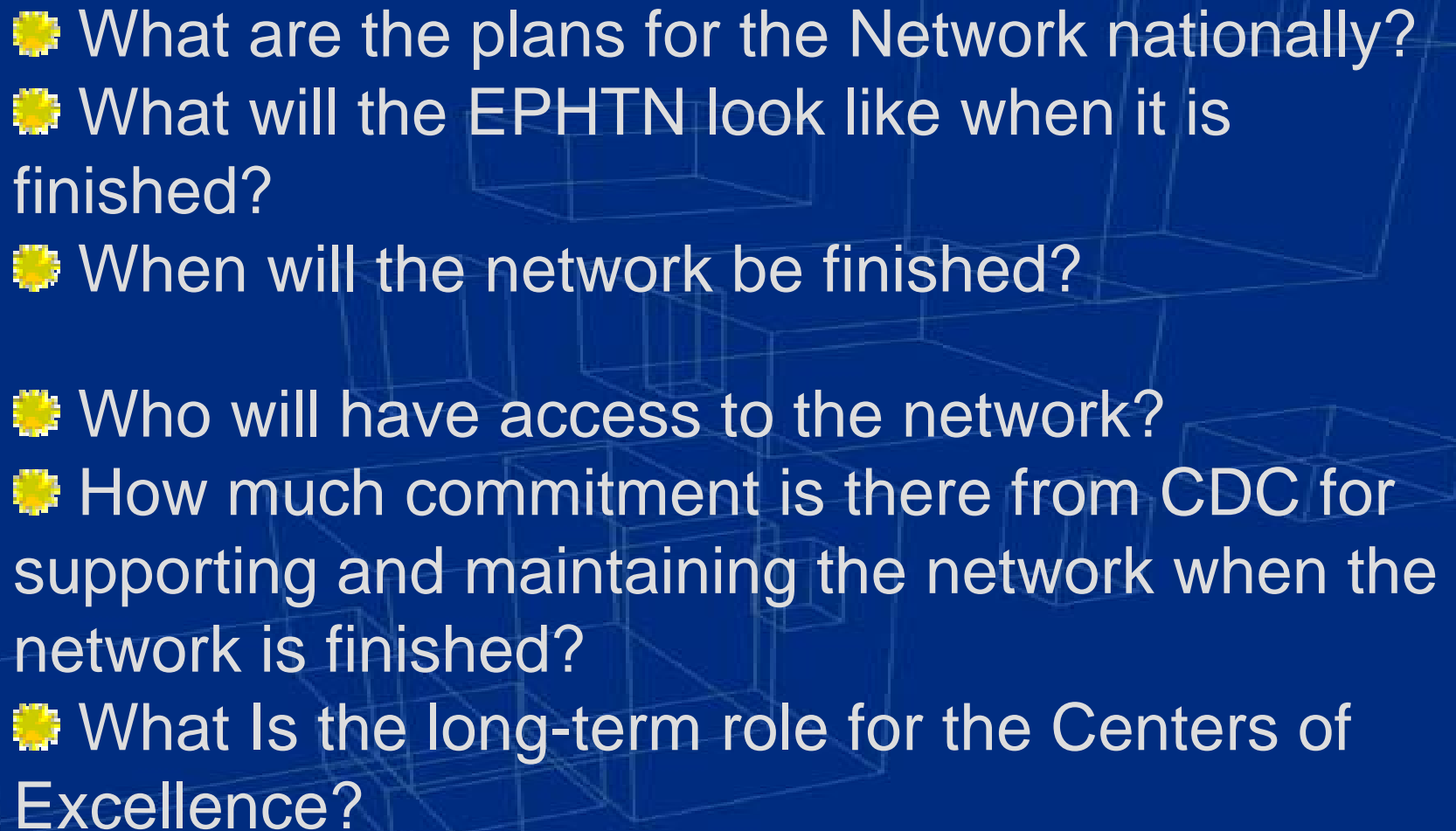
☀ Be able to interact and plan, to a greater level, with CDC, other grant states/cities, and the Centers of Excellence.

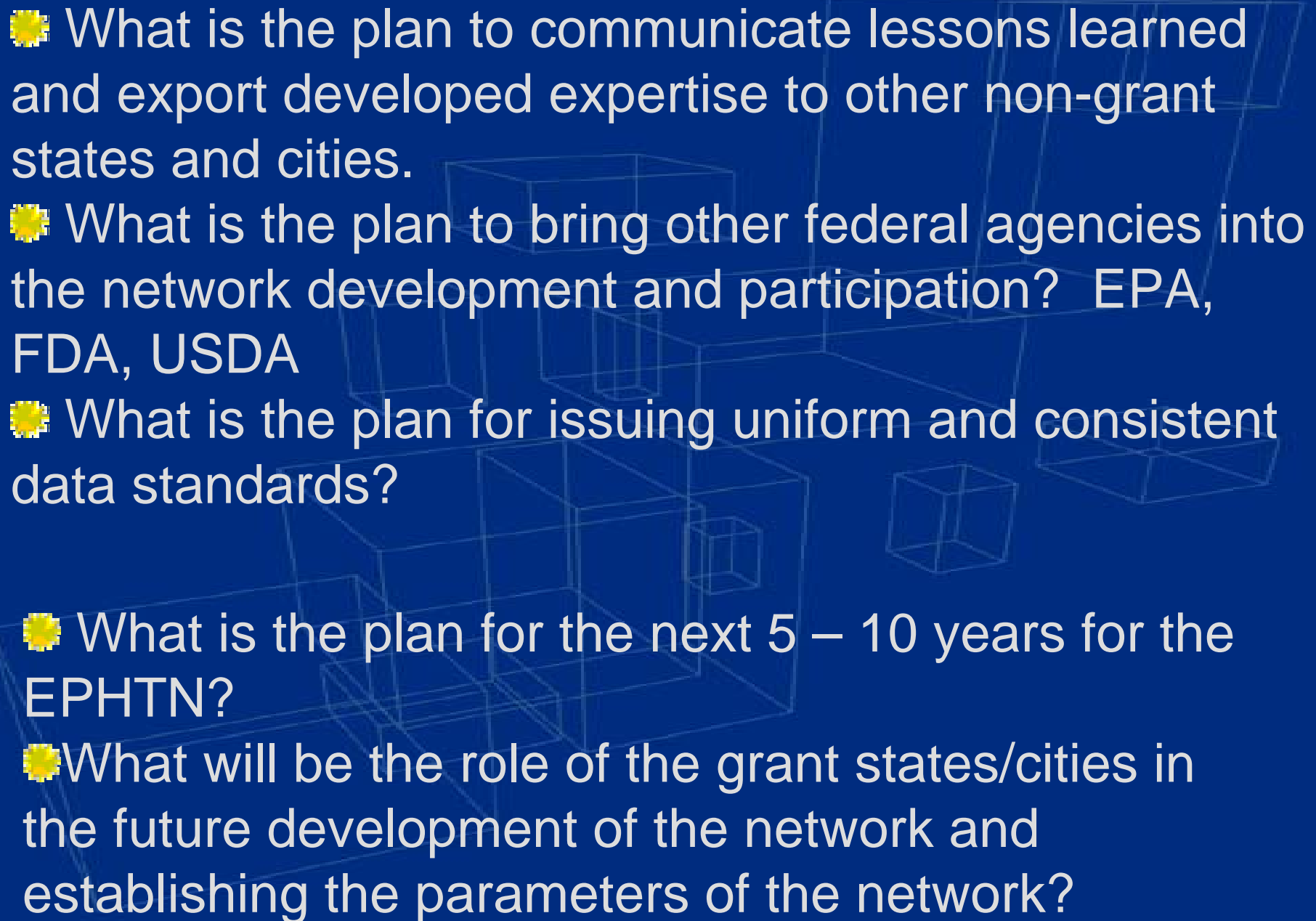
☀ Strengthen the Centers of Excellence. Make them a more prominent partner in the planning, development, and execution process.

What Missouri Needs to Continue Moving Forward



Even with all the successes, there are still several unknowns that must be answered to help Missouri continue to move forward in its efforts to build a top quality Environmental Surveillance program and network. The following questions have been generated numerous times both inside and outside the Department of Health. Management, collaborating partners, and potential partners have generated these questions. The answers are eagerly awaited.

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- ✿ What are the plans for the Network nationally?
 - ✿ What will the EPHTN look like when it is finished?
 - ✿ When will the network be finished?
 - ✿ Who will have access to the network?
 - ✿ How much commitment is there from CDC for supporting and maintaining the network when the network is finished?
 - ✿ What Is the long-term role for the Centers of Excellence?

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- What is the plan to communicate lessons learned and export developed expertise to other non-grant states and cities.
 - What is the plan to bring other federal agencies into the network development and participation? EPA, FDA, USDA
 - What is the plan for issuing uniform and consistent data standards?
 - What is the plan for the next 5 – 10 years for the EPHTN?
 - What will be the role of the grant states/cities in the future development of the network and establishing the parameters of the network?

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Thank you San Francisco!

